

What is Claimed is:

1. A check valve comprising a valve body and a flapper, the valve body defining an internal valve seat, the flapper being hingedly retained within the valve body, being sized and dimensioned to mate with the valve seat, and being adapted to alternatively swing between (i) a closed position wherein the flapper is in sealing contact with the valve seat, and (ii) an open position wherein the flapper is spaced apart from the valve seat, the flapper comprising:

(a) a flapper base having a forward surface, a rearward surface and a flapper base stem extending away from the forward surface;

(b) a gasket having a first surface, a second surface and a central aperture, the first surface of the gasket being disposed in abutment with the flapper base, with the flapper base stem disposed through the central aperture in the gasket; and

(c) a flapper cover having a forward surface, a rearward surface and a central aperture, the forward surface of the flapper cover being disposed in abutment with the second surface of the gasket with the flapper base stem disposed through the central aperture in the flapper cover;

wherein a central recess is defined in either the forward surface of the flapper base or in the forward surface of the flapper cover, the central recess being sufficient in depth and area to allow liquid disposed between the flapper base and the gasket when the flapper is in the first flapper position to migrate to the flapper base stem.

2. The check valve of claim 1 wherein the central recess has an outer border provided by a radial ridge defined on the forward surface of the flapper cover.

3. The check valve of claim 2 wherein the radial ridge has a generally uniform height above the forward surface of the flapper cover of between about 0.005 inch and

about 0.1 inch.

4. The check valve of claim 2 wherein the radial ridge has a generally uniform width of between about 0.05 inch and about 0.5 inch.

5. The check valve of claim 1 wherein the central recess is provided by grooves in the forward surface of the flapper cover.

6. The check valve of claim 5 wherein the forward surface of the flapper cover has a plurality of spaced apart nodes disposed proximate to the central aperture in the flapper cover, and wherein the grooves in the forward surface of the flapper cover are defined by gaps between the nodes.

7. The check valve of claim 6 wherein the nodes are between about 3 and about 20 in number.

8. The check valve of claim 6 wherein the nodes are between about 5 and about 7 in number.

9. The check valve of claim 6 wherein the nodes are disposed above the forward surface of the flapper cover by a distance of between about 0.005 inch and about 0.1 inch.

10. The check valve of claim 6 wherein the nodes each have bases and wherein each base is separated from an adjoining base by a distance of between about 0.03 inch and about 0.3 inch.

11. The check valve of claim 1 wherein the flapper cover is attached to the flapper base by a snap fit.

12. A check valve comprising a valve body and a flapper, the valve body defining an internal valve seat, the flapper being hingedly retained within the valve body, being sized and dimensioned to mate with the valve seat, and being adapted to alternatively swing between (i) a closed position wherein the flapper is in sealing contact with the valve seat, and (ii) an open position wherein the flapper is spaced apart from the valve seat, the flapper comprising:

(a) a flapper base having a forward surface, a rearward surface and a flapper base stem extending away from the forward surface;

(b) a gasket having a first surface, a second surface and a central aperture, the first surface of the gasket being disposed in abutment with the flapper base, with the flapper base stem disposed through the central aperture in the gasket; and

(c) a flapper cover having a forward surface, a rearward surface and a central aperture, the forward surface of the flapper cover being disposed in abutment with the second surface of the gasket with the flapper base stem disposed through the central aperture in the flapper cover;

wherein a central recess is defined in the forward surface of the flapper cover, the central recess being sufficient in depth and area to allow liquid disposed between the flapper base and the gasket when the flapper is in the first flapper position to migrate to the flapper base stem, the central recess being provided by a radial ridge defined on the forward surface of the flapper cover and between about 3 and about 20 spaced apart nodes defined on the forward surface of the flapper cover, proximate to the central aperture of the flapper cover.

13. The check valve of claim 12 wherein the radial ridge has a generally uniform height above the forward surface of the flapper cover of between about 0.005 inch and

about 0.1 inch.

14. The check valve of claim 12 wherein the radial ridge has a generally uniform width of between about 0.05 inch and about 0.5 inch.

15. The check valve of claim 12 wherein the nodes are between about 5 and about 7 in number.

16. The check valve of claim 12 wherein the nodes are disposed above the forward surface of the flapper cover by a distance of between about 0.005 inch and about 0.1 inch.

17. The check valve of claim 12 wherein the nodes each have bases and wherein each base is separated from an adjoining base by a distance of between about 0.03 inch and about 0.3 inch.

18. The check valve of claim 12 wherein the flapper cover is attached to the flapper base by a snap fit.